

ATOMIC ENERGY *newsletter*

THE FIRST AND ONLY ATOMIC NEWS SERVICE

ROBERT M. SHERMAN, EDITOR. PUBLISHED BI-WEEKLY BY ATOMIC ENERGY NEWS CO., 1000 SIXTH AVENUE, NEW YORK 10, N. Y.

October 21st, 1952
Vol. 8...No. 5

Dear Sir:

An additional 235,000 kilowatts of power are to be supplied the new uranium-235 producer plant, now under construction near Paducah, Ky., through a recent agreement between the U. S. Atomic Energy Commission, and Electric Energy, Inc., a group of five private power concerns. Total power requirements for this plant is 1,940,000 kilowatts. This new agreement increases the total power to be supplied by Electric Energy, Inc., from 500,000 kilowatts to 735,000 kilowatts. The Tennessee Valley Authority will furnish a total of 1,205,000 kilowatts for the facility. Annual costs of power when the Kentucky plant is in full operation are currently estimated at about \$23,100,000 from EEI, and at about \$37,000,000 from TVA. The EEI power generating facility at Joppa, Ill.

The recent nuclear detonation by Great Britain, at the Monte Bello Islands off Australia, was a "great success", Dr. O. M. Solandt, chairman of Canada's Defense Research Board, who attended the test, has now stated. He explained that it was an atomic and not a hydrogen bomb that was used, and that the explosion was by fission, not fusion.

The country's military authorities have only a "dim understanding" of the importance to them of keeping the basic industries operating under enemy atomic bomb attack, Millard F. Caldwell, Civil Defense Administrator complained last week in Washington. He said this lack of understanding was shared by Congress. Mr. Caldwell, who wishes to leave this position which he has held for two years, noted that the civil defense program has progressed to the point where about one-third of the needed medical and other supplies are on hand, and about one-fourth of the necessary manpower is enrolled. While official Washington is generally indifferent to civil defense, Mr. Caldwell said that President Truman is the exception to this.

In an effort to resolve the numerous labor stoppages (58 in the 20-month period since construction began) at the USAEC's Paducah, Ky., uranium-235 producer plant, now being built by F. H. McGraw Co., (the prime engineer and contractor there) the Atomic Energy Labor Relations Panel has been holding hearings at Paducah. The Panel, which comprises John T. Dunlap, Donald B. Straus, and Edwin E. Witte, with William H. Davis, as Chairman, has a solid record of accomplishment at other atomic energy installations, and it is believed that some understanding of the Paducah labor unrest may result from the Panel hearings there.

The European Council for Nuclear Research, meeting in Amsterdam recently, has now decided to recommend to the governments concerned that the \$25 million nuclear research center be established near Lake Geneva. The council selected this site rather than those in France, Denmark and the Netherlands that had been offered to them. Two factors favoring the Swiss location were that country's neutrality in the event of war, and a new power station to supply the large quantity of electric energy which will be needed.

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BUSINESS BRIEFS...in the nuclear energy field...

Power Agreement Made for Ohio Nuclear Plant- An agreement has now been made between the USAEC and a group of 15 private power companies, known as the Ohio Valley Electric Corp., to supply the 1,800,000 kilowatts of electric energy required to operate the uranium-235 production plant being constructed in Pike County, Ohio. The agreement also provides that the corporation will design and construct the necessary generating capacity, furnish reserve power from its systems, and make available 465,000 kilowatts of power from its existing systems for construction and early operation of the new gaseous diffusion plant, prior to completion of new generating facilities.

The agreement covers a 25-year period, with extensions available to the Commission. In the event the USAEC's power needs decrease or cease before termination of the agreement, the agreement provides for a 2-year notice of cancellation.

Annual costs of power, when the plant is in full operation, are currently estimated at about \$60,000,000. Power costs to the USAEC are to be based on fixed charges and costs of the generating facilities, operating expenses, and fuel.

Philip Sporn, president of American Gas & Electric Co., New York, is president of the new Ohio Valley Electric Corp. The 15 companies comprising this corporation are: Appalachian Electric Power Co., Cincinnati Gas & Electric Co., Columbus & Southern Ohio Electric Co., Dayton Power & Light Co., Indiana & Michigan Electric Co., Kentucky Utilities Co., Louisville Gas & Electric Co., Monongahela Power Co., Ohio Edison Co., Ohio Power Co., Pennsylvania Power Co., Potomac Edison Co., Southern Indiana Gas & Electric Co., Toledo Edison Co., West Penn Power Co.

Negotiations between the USAEC and the companies had been underway for some months. Last August, after announcement of the selection of the Pike County, Ohio, site for the production plant, the 15 companies announced their intention of constructing two steam generating plants in the Ohio River Valley with a total installed capacity of 2,200,000 kilowatts to supply the USAEC's new facility, if negotiations with the USAEC were successful.

New Branch Laboratory & Sales Office for Nuclear Consultants- Nuclear Research and Development, Inc., of St. Louis, Mo., are now opening a branch laboratory and sales office in the metropolitan New York area. The laboratory will offer the same nuclear physics consultation and isotope service to hospitals and industrial organizations in that area as the parent group has been offering in the St. Louis area. In the hospital field, this firm has made possible the organization of isotope programs at hospitals which ordinarily could not enter this field by offering a complete physics service, from furnishing the calibrated isotope dosages to the supervision and monitoring of the health of the persons handling the isotopes. Industrially, the field office will offer advice and aid in handling those production and development problems which can be solved using tracer techniques.

Special Conference on Atomic Energy in Industry Hears Views- Industry and private capital should be allowed much greater participation in the atomic energy program, Stanley B. Roboff, atomic energy division, Sylvania Electric Products, Inc., told the special conference on atomic energy in industry, held last week in New York under the sponsorship of the National Industrial Conference Board, Inc. He recommended that the Atomic Energy Act (1946) be revised to permit private industry and capital to enter the field.

Philip Sporn, president, American Gas and Electric Co., who heads the Ohio Valley Power Corp., newly formed to supply the USAEC's new uranium-235 producer plant in Pike County, Ohio, urged that measures be devised to bring the entire electric utility industry into closer contact with what is going on in the field of atomic energy. This is essential to technological progress in the utility field, he emphasized.

George R. Prout, vice-president in charge of nucleonic and atomic projects for General Electric Co., reported that G-E now has more than 11,000 persons engaged in atomic energy work on contract with the USAEC.

RAW MATERIALS...radioactive minerals for nuclear energy work...

CANADA- At Lake Athabaska, encouraging reports have been made by Gunnar Gold Mines on results from one of the drill holes on its property there. Partial assays have showed an average uranium oxide content of 0.403% across 57-ft., extending from 62-ft. to 119-ft. No assays have as yet been made on other sections of the core, from this particular drill hole. Two other drill holes, numbers 1 and 3, assayed 0.08% over 143-ft., and 121-ft., respectively.

At the northeast of this Gunnar property (as above), and tying onto it, a group of 11-claims have been acquired by Chimo Gold Mines, president W. J. Blair of Chimo recently advised. He states that the Chimo claims are traversed by a major regional fault structure that strikes across the Gunnar ground in a northeasterly direction, and with which the latter's pitchblende occurrences are associated. Because of the exceptional results Gunnar has obtained, Chimo will concentrate its work on this new acquisition, while retaining its other holdings in good standing.

The major exploratory drilling program being carried out by the United States firm of St. Joseph Lead Co., in the Athabaska area, has only recently picked up good values over widths of up to 30-ft; further work will be carried out. This is the first encouragement St. Joseph Lead has had since it started the program, on which it has so far spent over \$200,000. Under a working agreement made earlier this year, it agreed to spend at least \$100,000 on each of the adjoining properties of Amax Athabasca Uranium Mines, and Aurora Uranium and Gold Mines, both of which straddle what was considered a promising locale for uranium ore. Until the recent findings, earlier work had proved disappointing.

Diamond drilling has now been started by Pole Star Mines on its Axe group of uranium prospect claims in the Beaverlodge district of Northern Saskatchewan. The property, comprising six claims, is one of three groups held in the area and adjoins the property of Cinch Lake Uranium Mines. It lies along the projected westerly strike of the main St. Louis fault zone, along which are located the several mines of Eldorado Mining and Refining. First drilling is being done according to the recommendations of Dr. A. P. Bevan, consulting geologist, who has laid out a series of holes to investigate a number of radioactive fault zones that have been located on the claims. In sampling a surface showing, in earlier work, assays up to 3.36% uranium oxide were obtained.

AUSTRALIA- Consolidated Zinc Proprietary, Ltd., a wholly-owned subsidiary of The Consolidated Zinc Corporation of London, will develop Australia's Rum Jungle uranium ores for the Government, under an agreement recently made between the Commonwealth of Australia and that firm. According to Mr. Howard Beale, Australian Supply Minister, who made the announcement, an organization is being considered by the Government to control the whole development of the uranium resources of Australia.

NEW BOOKS & OTHER PUBLICATIONS...in the nuclear energy & allied fields...

Radioisotopes in Industry, by Bradford. Based on a series of lectures given at Case Institute in 1951, with additional material on more recent developments. Comprehensive coverage also given to such related subjects at laboratory construction, shielding, personnel protection, handling techniques, and radioactive waste disposal.--Reinhold Publishing Corp., New York 36, N.Y.

Analysis of Dangers of X-ray Irradiation, by J. A. English. Pharmacological Studies of Radiogermanium, by H. C. Dudley, E. J. Wallace, L. J. Louviere. Whole Body x-Irradiation of Obese Mice, by W. W. Smith, W. H. Chapman, I. M. Alderman. --Inquiries concerning these three publications should be made to Naval Medical Research Institute, National Naval Medical Center, Bethesda, Md., as they cover work performed at this establishment.

Atomic Energy for Peace. A popular pamphlet covering the subject in elementary fashion; one of the Armed Forces Talks. 16 pages. 50¢ --Superintendent of Documents, Washington 25, D.C.

Radiological Health for Sanitarians by C. D. Spangler.--Available from Public Health Service, Communicable Disease Center, Atlanta, Ga.

IONIZING RADIATION...news & notes...

New Cyclotron Now In Operation- Argonne National Laboratory, Chicago, operated by the University of Chicago for the USAEC, now has its 60-inch constant frequency cyclotron in operation, the laboratory stated last fortnight. Operation of the new cyclotron, the Laboratory said, has already exceeded the stringent performance specifications called for in the construction contract. Designed, constructed and installed and adjusted to full performance by the Collins Radio Co., Cedar Rapids, Ia., at a cost to the Laboratory of approximately \$966,000 the work was done under a lump sum, time limit, and performance specification contract. The new research tool, which is expected to be of considerable assistance in furthering the Laboratory's research programs in biology, chemistry and physics, is operated by members of the Laboratory's chemistry division.

Betatron Unit Dedicated- A 24 million electron volt betatron unit, the first of its kind ever to be installed exclusively for work with cancer, was dedicated last week at the Memorial Center for Cancer and Allied Diseases, New York. Dr. C. P. Rhoads, director of the center, explained at the dedication that the problems of protection against atomic injury in peace and war were essentially those of cancer control. Gordon Dean, Chairman of the USAEC, said that the members of the Commission felt they had an obligation to share the fight against cancer. This is because atomic energy is very intimately associated with cancer in many ways, Mr. Dean stated. In the atomic energy program one deals with nuclear radiation, he observed, and nuclear radiation can be used to cause cancer, to treat cancer, and to help better understand cancer so that ways may be found to control it. The Commission also believes that it has an obligation to involve itself in the attempt to combat cancer because the atomic energy program is a publicly-owned enterprise in which the taxpayer to date has invested nearly \$10 billion, he explained. As to the work of the Commission in the field of cancer, Mr. Dean noted that the USAEC maintains cancer research facilities, including clinics or hospitals, at three of its four major installations. A fourth, at the Argonne Cancer Hospital, Chicago will become operative very soon, he said.

New Radiation Source Installed- In connection with its work on the design and construction of a full-scale, land-based model of an atomic power plant for U.S. Navy submarines, Knolls Atomic Power Laboratory, Schenectady, N.Y., (operated by General Electric Co. for the USAEC) recently installed 2.5-lbs. of cobalt-60, as a radiation source. It is used to determine the effects upon various materials of the gamma rays which the radiocobalt emits. The radioactive cobalt is contained in ten cylindrical capsules, mounted in holes in a steel pit. They are kept at the bottom of a concrete pit, and covered by nine feet of water, which effectively and safely shields the high radiation emitted. Remote control devices permit the capsules to be handled at a distance, if necessary, and allow test sample to be placed in position around them. The cobalt-60 source was purchased by the Laboratory, at a cost for approximately \$20,000 through the USAEC's isotopes division, Oak Ridge, Tenn., the central clearing house for radioactive and other isotopes prepared in U.S. nuclear reactors.

RADIOISOTOPES...applications in industry and the sciences...

Uses for Radioisotopes in Textile Industry- The textile industry might use radioisotopes in a number of ways, Dr. P. C. Aebersold told a meeting of the Clothing Manufacturers convention in New York last week. Dr. Aebersold is director of the isotopes division, USAEC, Oak Ridge, Tenn. He cited as examples the study and measurement of the penetration of dyes into fabrics; the selection of better detergents; the study of synthetic fiber production; the development of better textile lubricants; and the control of static electricity which builds up on looms and other machines.

ATOMIC PATENT DIGEST...latest U. S. grants and applications...

Radiation intensity metering system. In part, the combination of an electroscope and an ionization chamber and electrode means including a quantity of a radioactive isotope connected to a common point and an impedance device connected between a common point and a point of reference potential with respect to this isotope. U. S. Pat. No. 2,610,302 issued Sept. 9, 1952; assigned to Radio Corp. of America, Princeton, N. J.

Selective electrodeposition of silver. A method for the separation and selective recovery of dissolved silver, present in trace concentrations, from an aqueous palladium solution. Comprises, in part, incorporating into this solution an agent which forms water-soluble complexes with both silver and palladium chosen from the group of such agents consisting of ammonium hydroxide and the cyanides, thiocyanates, and thiosulfates of sodium and potassium, and electrolyzing the resulting solution to effect metal deposition upon a platinum cathode. U. S. Pat. No. 2,612,470 issued Sept. 30, 1952; assigned to United States of America (USAEC).

Compensated thermocouple for measuring the temperature of a current carrying conductor. Includes, in part, a meter and first and second dissimilar thermocouple wires connected to this meter, and to each other at the hot juncture on the surface of the conductor, a third thermocouple wire of the same material as the first thermocouple wire, the whole forming a balanced bridge whereby a potential impressed between these thermocouple wires at the hot juncture is canceled. U. S. Pat. No. 2,612,779 issued Oct. 7, 1952; assigned to United States of America (USAEC).

Apparatus for measuring direct voltage or charge. Comprising, in part, the combination of a dynamic condenser adapted to convert an input direct voltage to an input alternating direct voltage, an oscillator coupled to this dynamic condenser, an alternating current amplifier, an isolating coupling circuit connecting the output of the dynamic condenser to the input of the amplifier, and associated electronic circuitry. U. S. Pat. No. 2,613,236 issued Oct. 7, 1952; assigned to United States of America (USAEC).

Welding device. Comprises, in part, an evacuated chamber, means for inserting a pair of metallic parts to be welded therein, a source of high frequency voltage connected between these parts, voltage control means connected to this high voltage source for setting the voltage between said parts to produce multipaction, and means forcing these parts into contact after heating. U. S. Pat. No. 2,613,305 issued Oct. 7, 1952; assigned to United States of America (USAEC).

Method of determining the proportions of two substances in a mixture. Comprises, in part, transmitting a beam of neutrons through this mixture over a predetermined path, and transmitting the beam through mixtures of substances wherein the proportions of the substances are known, while maintaining the length of the path the same as for the first transmission, and from a comparison of the measurements thus obtained calculating the proportions of the substances in the unknown mixture. U. S. Pat. No. 2,613,326 issued Oct. 7, 1952; assigned to The Texas Company, New York.

Radiation dosimeter. Comprises, in part, a housing enclosing an ionizable atmosphere, an ionization chamber and an electroscope chamber within this housing, an electrically conducting charge-receiving member centrally located within this housing, several electroscope electrodes electrically connected to this charge receiving member, and extending into the electroscope chamber adjacent each other, with one of these electrodes comprising a flexible member readily deflected under the influence of electrostatic forces. U. S. Pat. No. 2,613,327 issued Oct. 7, 1952; assigned to United States of America (USAEC).

Sincerely,

The Staff,
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